HUGHES

September 30, 2016

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Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: *The Proposed Extension of Part 4 of the Commission's Rules Regarding Outage Reporting to Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers*, PS Docket Nos. 15-80 and 11-82; and ET Docket No. 04-35

Dear Ms. Dortch:

On September 26, 2016, representatives of Hughes Network Systems, LLC ("Hughes") met to discuss the above-referenced proceeding with the staff members of the Public Safety and Homeland Security Bureau. At that meeting, the parties discussed Hughes's recommendations for the adoption of metrics for outage reporting that are more consistent with the capabilities of satellite-provided voice over IP and broadband Internet access services ("BIAS").[1] Hughes hereby supplements the record by providing a proposal for the adoption of a two-part outage reporting scheme that utilizes a throughput-based metric for dedicated services, such as backbone interconnections, and a user minutes calculation for BIAS providers. By implementing a two-prong approach, service providers would be required to submit outage reporting information only for the portion of the network for which they are responsible and have visibility Hughes, as a provider of both BIAS and backbone services, believes that such an approach will enable the FCC to obtain the most reliable outage reporting data.

The FCC has proposed adopting a revised outage reporting requirement for BIAS to end users.[2] The current voice outage reporting threshold of 900,000 user minutes with a thirty minute baseline has provided the FCC with the information it needs to be informed of significant voice outages, including for voice over internet protocol.[3] Accordingly, Hughes supports retaining this threshold, which will also reduce administrative and technical burdens on BIAS providers.

[1] *See* Notice of *ex parte* from Jodi Goldberg, Hughes, to Marlene Dortch, FCC, PS Docket Nos. 15-80 and 11-82 and ET Docket No. 04-35 (filed Sept. 27, 2016).
[2] *See Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, Report and Order, Further Notice of Proposed Rulemaking, and Order on Reconsideration, 31 FCC Rcd 5817 (2016) ("FNPRM").
[3] *See* 47 CFR 4.9(c)(2)(ii).

If the FCC chooses to adopt an outage reporting requirement for dedicated services, such as interconnection points which connect a BIAS provider to the internet or by a BIAS provider to a commercial customer where the number of subscribers serviced by that connection is unknown, the FCC should adopt a throughput based threshold. In order for the FCC to adopt a reasonable and measureable throughput metric, Hughes recommends that it be based on the amount of capacity purchased by the customer multiplied by the minutes of outage. To this end, Hughes supports the FCC's proposed threshold of 22,500 Gbps Minutes.[4]

Furthermore, Hughes urges the FCC avoid the adoption of metrics such as packet loss and latency which are not technologically neutral. Geostationary orbit satellites are inherently higher latency than terrestrial alternatives as they are located 22,000 miles above the earth, subjecting them to a minimum delay of 600 ms.[5] However, terrestrial wireless networks will have a higher latency than terrestrial wireline networks;[6] and similarly, will have a higher experience of packet loss than their wired counterparts.[7] In order to mitigate these factors, operators have implemented technological solutions that minimize their effect on network performance enabling these networks to provide reliable, quality voice services.[8] Accordingly, the FCC should not utilize latency and packet loss metrics to determine if there is a reportable outage as they do not provide meaningful measures of network availability. Moreover, performance degradation, even after accounting for technology neutrality, is not easily quantifiable in a manner that would progress the Commission's goals of ensuring critical communications are being made available to consumers.

[4] FNPRM at 55-6.
[5] *See, e.g.*, FCC Office of Engineering and Technology and Consumer & Governmental Affairs Bureau, 2015 Measuring Broadband America Fixed Broadband Report: A Report on Consumer Fixed Broadband Performance in the US (Dec. 30, 2015), https://www.fcc.gov/general/measuring-broadband-america at Part D. ("…the average latencies of satellite-based broadband services (which range from 603 ms to 659 ms) are much higher than those for terrestrial-based broadband services (which range from 14 ms to 52 ms)") (Dec. 30, 2015). (Hereafter "Broadband America Report")
[6] *See e.g.* Vantage Point "Wireless Broadband is Not a Viable Substitute for Wireline Broadband" (Mar., 2015), http://www.ntca.org/images/stories/Documents/fixedwirelesswhitepaper.pdf.
[7] *See e.g.* Broadband America Report, at Part E.
[8] *See generally* Broadband America Report.

Pursuant to the Commission's rules, this notice is being filed in the above-referenced docket for inclusion in the public record. Please contact me should you have any questions.

Respectfully submitted,

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Attachment

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